

REMARKS

Claims 1, 3, 6, 7, 15, 17, 20-22, 24 and 27-29 have been amended. New claims 30-41 have been added. It should be appreciated that the new claims are consistent with the disclosure and do not add new matter. Claims 1-41 remain in the application.

The drawings were objected to because in Figure 2, the Examiner stated that lead line for numeral 38 pointed to the port member instead of the spacer. The Applicant has carefully reviewed Figure 2, and Figure 2 does not include a reference numeral 38 for the spacer. The spacer is clearly indicated in Figures 3, 5 and 6. The applicant respectfully submits that Figure 2 is correct.

The specification was objected to because of an informality with the date. The specification has been amended appropriately.

Claims 1-29 were objected to because of various informalities. Claims 7-9 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. The claims have all been amended accordingly. New claims 30-41 include claim 7 in independent form, and the claims dependent therefrom. The Applicant respectfully submits that claims 1-41 are in a condition for allowance, which allowance is respectfully solicited.

Claims 1-3, 5-6, 10 and 13-14 were rejected under 35 U.S.C. §102(b) as being anticipated by Gasche (US 3,398,978). Applicant respectfully traverses this rejection. U.S. Patent No. 3,398,978 to Gasche discloses a resilient coupling for connecting two lengths of tubing. Each length of the tubing 4, 5 is joined end to end by the coupling. The coupling includes a hub 6, 7 that is welded to the end of the pipe 4, 5. Each hub has a radially extending flange 8 with sides that are adjacent and opposite to each other and side 10 which form surfaces extending radially

from the hubs 6, 7 and sloping towards the opposite flange. A split clamp having two or more identical portions 11, 12 surround the flanges 8. Each clamp has a groove 13 into which the flanges 8 extend. The sides of the grooves 13 are almost parallel to the surfaces 10 of the flanges 8, but are spaced from these surfaces. The portions of the members 11, 12 on each side of the grooves 13 form rings surrounding the flanges 8. A thrust washer 15 rests against each of the sides of the ring portion at each side of the groove and each flange 8 has a groove formed in the surface 10 of each flange. Each groove carries a resilient member 17 that is tubular in cross-sectional shape, and is preferably a spring. The resilient member extends beyond the surfaces 10 of the flanges and engages the thrust washers and holds these washers spaced slightly away from the surfaces of the flanges. The clamp portions 11, 12 are bolted together, and the coils of the springs 17 are compressed so as to exert a resilient force on the two hubs 6, 7 towards each other and against the ring seal. The springs take care of the thermal expansion and contraction of the portions of the hubs 6, 7 adjacent the seal 21 and of the flanges 8. Gasche '978 does not disclose a clamp assembly that includes a port member that is separable from the members being interconnected and directs the clamping forces radially inwards from the contact points between the clamp member and the flange toward the center of the central fluid passageway.

In contradistinction, the present invention is a clamp assembly for interconnecting components in a fluid system that includes two interconnected clamp members each having a C-shape that form a channel. A spacer is disposed within the channel, and the spacer includes a centrally located bore defining a part of a central passageway for the transmission of a fluid. At least one port member is also removably engaged in the clamp member channel adjacent the spacer. The port member includes a center portion with a clamping portion at one end of the center portion and a connecting portion at the opposite end and a longitudinally extending bore

defining part of a central passageway for the transmission of the fluid. The port member also includes a flange extending radially from the clamping portion, and the flange has a predetermined shape corresponding to that of the clamp member channel. The shape of the clamp member flange advantageously directs a plurality of clamping forces from the clamp members radially inwards from points of contact between the flange and the clamp members to provide cross loading.

Gasche '978 does not disclose, anticipate or otherwise suggest the claimed invention of claim 1 as amended. Gasche '978 merely discloses a clamp assembly for connecting two tube members with permanent fittings, or hubs, on each end of the tube and a resilient member or spring to compress the hubs together. Gasche '978 does not disclose a clamp assembly having two interconnected clamp members that form a channel, and a spacer disposed in the channel that defines a central passageway for the transmission of a fluid. Gasche '978 does not disclose a clamp assembly having a separable port member with a flange, and having a predetermined shape to better distribute clamping forces. Further, in Gasche '978 the hub or port member is fixedly secured over an end of the tubing length to be connected, such as by welding. This structure is clearly distinguishable from Applicant's invention, since the port member is separable from the clamp member and the tube is secured onto the port member in a non-permanent manner. The Applicant's invention does not rely on a resilient ring-like member extending around the outside of the hub or port member that is compressed to exert a resilient force on the hubs, to force the two hubs toward each other and against the ring seal.

Gasche '978 does not disclose a clamp assembly having a connecting port that can be oriented in a plurality of directions to more evenly distribute clamping forces. In addition, Gasche '978 does not disclose a clamping assembly that can quickly interconnect unrelated components.

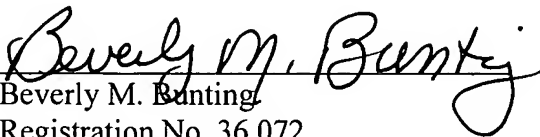
In fact, Gasche '978 teaches away from the present invention since the clamp assembly relies on the resilient ring-like member, or spring, surrounding the hub to exert a resilient force on the hubs, to force the hubs towards each other. Since the structure and function of the Gasche '978 clamp assembly are distinguishable from Applicant's invention, Applicant's invention is not anticipated by Gasche '978.

Therefore, it is respectfully submitted that claim 1 as amended and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. §102(b).

Claims 4 and 11-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gasche. Applicant respectfully traverses this rejection for the reasons set forth above with respect to Gasche '978. In addition, claims 4 and 11-12 depend from claim 1, which Applicant submits is allowable. Therefore, it is respectfully submitted that claims 4, 11 and 12 are allowable over the rejection under 35 U.S.C. §103(a).

Based on the above, Applicant submits that the claims are in a condition for allowance, which allowance is respectfully solicited. If the Examiner finds to the contrary, it is respectfully requested that the undersigned in charge of this application be called at the telephone number given below to resolve any remaining issues.

Respectfully submitted,



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